



## NWCG Smoke Committee May 2013 Activity Update



### 2013 International Smoke Symposium

- Call for Papers is being widely distributed by subcommittees, international email lists, NACAA, federal and state agencies, prescribed fire councils, etc.
- Posted on MyFireCommunity website, other agency/organization's websites and organizational calendars.
- SmoC and subcommittees updating Josh with plans for attendance.
- Outreach to specific communities like health departments, CDC, Visibility, IMPROVE, Highway Administration, NWS, emergency managers, NRCS, DoD, JFSP, OSU, KU, KDH, Ag, TNC, Univ WI.
- Status: Steering and Program Committee
  - Steering Committee
    - Working on attendance: May drop to 80 rooms and 6 track rooms.
    - 2013 Travel restrictions causing difficulty.
    - Many scientists close/local to MD.
    - IAWF will utilize Twitter with weekly updates to keep parties engaged.
    - No update from NASA or NIFA—on potential funding.
    - May have specific funding agreement w/FS & IAWF soon.
  - Program Committee
    - Endeavoring to balance between too broad or specific focus in call for papers.
    - Exploring possible virtual presentations—costly option.
  - Susan Stone EPA is interested in having a panel dealing with 2008 Wildfire Response Guide for Public Health Officials revision.
- Outreach Efforts
  - Posted on JFSP events page.
  - Posted on the Events Calendar on FRAMES.gov/smoke.
    - Tim Swedberg – Call for papers outreach.
  - JFSP smoke science community (active projects & submitted but not funded).
  - JFSP Knowledge Consortia outreach- distribute among their groups.
- Smoke Symposium guest speaker suggestions:
  - Keynote: Policy and Emerging Issues:
    - Robert Bonnie – USDA, Gina McCarthy – EPA, Tom Tidwell – USFS, Janet McCabe-EPA, Johann Goldammer - Global Fire Monitoring Center.
  - Wednesday – Science:
    - Wayne E. Cascio - EPA; Uma Shankar –UNC.
  - Thursday – Implementation:
    - Bill Becker – NACAA, Mark Melvin – Coalition of Prescribed Fire Councils.

### EPA ORD: Next Generation Air Monitoring

Tim Watkins – EPA ORD Confirmed June 27<sup>th</sup>.

### Interaction/Liaison to the JFSP Regional Knowledge Consortia

- Main contact is Ed Brunson (JFSP Governing Board member)
- Trying to improve the effectiveness of SmoC outreach—want info as often as we can send.
- Interested in SmoC Activity Updates
- Send info to Tim Swedberg for distribution to consortia community.

### NWCG Business & Funding Submittals

- Working on getting Phase 2 of money for training videos into complete CESU grant.



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- Letter of support Estimated Smoldering Potential project funding sent to NWCG. Project applicable to personnel and public smoke exposure - \$25-\$29K.
- Mark and Pete sent the NWCG funding proposal for:
  - ARA Training Workshop 2014 (High Priority) requesting \$45K
    - Expand scope of last spring's workshop
    - Tailor program to user needs of ARAs out on incidents.
  - Rx 410 assessment (Med/low Priority) requesting \$30K
  - State and tribal Rx fire training assessment (Med/low priority) requesting \$50K
    - Condition of Rx burn certification at the state level. No inter-state coordination.
    - Assess what smoke management training state and private burners have access to.
    - Beneficial to understand this segment of the smoke/fire community.
    - Strong collaboration w/National Coalition of Prescribed Fire Councils.
- Smoke Management Guide on schedule for release end of 2014.

### NEI Status

- Susan drafted Briefing Paper on NEI for Dan Smith, State Foresters, and Fire Chiefs.
  - Interactive KMZ files available showing PM2.5 data when clicking on fire.
- Comments from States, Locals, and Tribes regarding 2011 NEI were due May 8<sup>th</sup>.
- NEI Report Comparisons:
  - 2011: 2.2 million tons PM/~23 million acres burned.
  - 2008: 1.7 million tons PM/~18 million acres burned.
  - GHG EI: ~37% of what NEI is reflecting for CO<sub>2</sub>; much higher in 2011 than 2010.
- Gary and Bob Mickler will be reporting Paines Bay Fire and Evans Road Fire data.
- Numbers from the two EIs should not be compared because the GHG inventory is only forested lands (not range, ag, etc) while EPA NEI addresses all wildlands.
- Sim Larkin drafting paper comparing EIs for forested lands between NEI and GHG.
- Important to have every state report number of acres burned in order to accurately reflect smoke emissions inventory on national and international scale.
  - Leadership opportunity for AG AQ task force to stress importance of smoke EI and role in large scale modeling.

### Ozone Monitor Interference

- Authors are interested in drafting short technical report-can't author directly now.
- SmoC will start draft and authors will comment and modify.

### Exceptional Events Documentation Training – Report-Out (Gary)

- Tools similar to previous ones, which had to be utilized again due to lack of funding.
- Rule is about exceptional events, not exceptional data. Therefore, the tool focuses on the event.
- Historical burn data for a region is in the historical data file.
- Must prove an event exceptional to previous (historical) fires has occurred.
- Difficult to look at all data for a single month and make comparisons.



### Basic Smoke Management Practices Tech Note

- Open to ideas for outreach—Contacting NRCS and old Ag Air Quality Task Force.
- Idea to submit paper/poster for the 2013 International Smoke Symposium.

### 5/16—Special Presentation: Black Carbon and Fire by Bob Yokelson, U of Montana –

- US fires can reach the arctic. C2ES recommend changing the timing of prescribed fires, which Bob does not endorse due to vast uncertainty.
- Black carbon (BC) is isolated pure soot when the smoke is fresh, over time, a matter of hours, most of the BC particles are coated w/organic material – this is faster than current models which are developed for diesel smoke and other emissions.
- Organic coating increases light absorption, but are also soluble & react with water vapor – may reduce the chances of long range transport.
- Not all BC going to the arctic is important, only the particles that land on snow or are very close to the ground matter, BC higher in the elevation would intercept sunlight and facilitate cooling.
- Aged smoke scatters sunlight better than new source, which can facilitate atmospheric cooling.
- Rapid coating formation occurs in open burning. Still analyzing data for cooking fires/residential fires. Occurs faster w/biomass due to flaming & smoldering emission—produces more organics.
- FLAME4 experiments that look at fuel-burning cook stoves use the same fuel and stove types as the EPA tests.
- Soot- elemental or BC carbon. Smoldering combustion makes organic aerosol & is oxidized sometimes affects ability to absorb light.
- Brown carbon mainly absorbs UV, which makes the impact on climate less, but the impact on plume chemistry greater.
- Presentation is posted on MyFireCommunity Air Quality and Fire Issues Neighborhood

### Subcommittee Report-outs

#### Smoke Technical Topics

- Moving forward with the Smoke Management Guide on weekly calls.
- Plan a call w/Allen Deitz on the steps to getting the SMG published
  - Need to come to a consensus on details—glossary, table of contents, etc.

#### Smoke Training

- Coordinating subcommittee/working groups and tracking projects.
- Transportation Safety working group is drafting a student guide.
- Outreach to Smoke Training Committee for comments on Transportation Safety Script.
- Next call the week of 6/17 or 6/20 (to be determined). Will discuss comments and feedback on the Transportation Safety script, updates on projects, & any other news callers want to discuss.

#### Smoke Managers

- Lawra Boyce/SC gave presentation on Rx and AQ workgroups—success in bringing them together.
- Scott Reed/AR FS gave presentation on his computer program.
  - Helps burners comply w/voluntary smoke management programs.
  - State uses program to model emissions & recommends modifications if necessary.
  - Interested in sharing w/other states with voluntary programs.

### Round Robin



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- Susan & Brian Lamb/WSU discussed wildfire smoke & UV instruments. Richard Payton and Wei Min Hao authored test with O3 monitors & PM2.5 interference in chamber burns. Results vary by monitor and vegetation type. SmoC offered to help develop tech note (Mark & Tammy).
- Bill Leenhouts—1998 Assessment of biomass burning in US:  
<http://www.consecol.org/vol2/iss1/art1/>
- WSU, EPA, other researchers plans to measure smoke in field burns summer/2013.
- Emission study: effect of polyethylene cover on wet vs. dry burn piles.
- AirFire for fire weather/fire hazard topics for ARA incident teams.
- NWS progressing on tools to make Gary Achtemeier Fog Index operational.
- NWCG FWSC submitting funding request for Estimated Smoldering Potential Project for Organic Soils/Mountain Deep Duffs.
- Inter-committee or SC communication—contact committee directly, talk to subcommittee chairs, submit paperwork and get supporting emails from other committee chairs.
- Need to send RFP ideas to JFSP by end May. RFPs out early October/due mid-November.
- South Central OR entering fire season. Already having earlier than expected fires in west OR.
- Gary discussing super-fog w/CA DoT for information regarding visibility impairment on roads.
- Gary & Anthony Matthews holding Rx410 course for FS R8 in Birmingham, AL.
- NWCG FWSC is concerned about:
  - A. RAWs standard change (change in temp/RH & time of maintenance) and plug & play stations for FD weather needs (change in platforms, data ports). Affects Rx fire decision making, so request more information.
  - B. NWCG Glossary for Wildland Fire Terminology is in progress.
  - C. Mixing Height Methodology – TKE/Stull/Holzworth – Draft by end of June—test hypothesis Turbulent Kinetic Energy (TKE) W/Lidar Validation.
  - D. Hour Graphical Weather for smoke dispersion assessment. Heath Hockenberry/NWS seeking to make dispersion system modeling a national option.
- Susan—Fire Refresher—IMET prediction on busy fire season:
- Jan-Apr—record dry weather, esp CA.; Snow above 4000ft/lower slopes drier; July-Sept continue dry weather, similar to 2011, historic fire season potential is high.
- Diana—May NACAA Criteria Pollutant Committee call—Release of EE guidance and rule development update by Phil Lorang/EPA-OAQPS:
  - Timeline—draft by end/2013 & final/2014.
  - Specifically addressing fires & examples of successful documentation of events for ozone. In process of developing “Fire Strategy (Policy?)” to address wild/Rx fires & Ag issues. Have held discussions w/various fed agencies.
  - Still intend to hold stakeholder meetings in fall. Due to sequestration tightening travel, may be conference call venue. 3 separate meetings (State/Local, other agencies, public) in 4 regions of US (Northeast, Midwest, Southwest, and CA—no specific locations yet).
- Mark attended conf. call on consistent smoke messaging (offshoot of EPA R10 Smoke Mgt mtg).
  - Started a work group of environmental/state departments and regulators.
  - Goal of consistent messaging on smoke impacts.
  - The group has discussed EPA AQI/AQA values for the state of WA
    - AQA—used in WA, similar to AQI. Confusing since slightly different from federal AQI.
    - WA is in the process of writing a document on their AQA.
- Discussed outreach materials/brochures/6 minutes for safety to convey roadway safety in smoky conditions.



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- Risk Management Committee meeting Fall/2013: Contact Tony Beitia to offer development of a 6 Minute for Safety on BSMPs. Could be part of the 6 minutes for safety one-pagers.
- Susan – AFMO/Spokane—example of previous Rx fires & treatments reducing impacts from wildland fire: Baker Canyon Complex—2 fires: 17K & 60K acres. 17K stayed small, burned into treated areas & previously burned areas. Lowered fire behavior, facilitated easy suppression, & reduced smoke impacts. The 60K acre fire burned in untreated areas.
- Western Governors Association (WGA) and WRAP have an archived webpage with fire emission information. Changing website this summer to focus to Governor policy and initiatives. The information will be made available since portions of WRAP are referenced in state SIPs.
- Gary- Outreach on aerial optical density and the remote applications center: Will let this group know about the 2013 Smoke Symposium.
  - IDEA website at UWisconsin. USFS MODIS and MISER, can those get information relevant to smoke and should we be dialoguing with this community? Gary is going to engage them and DoD as well, also solicit presentations for the smoke symposium.
- FS is planning a 3-4K acre burn on the Sequoia NF (the Boulder Burn) San Joaquin Valley and EPA R9 staff are also involved, they are hoping to light this Fall.
- Pete—Discussed linking FS GOES samplers to AirNow Tech. Some of the CARPA devices are also using GOES so EPA may get even more data into their system.